

Evaluation of Arabian asphalt binder for low-temperature cracking

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Abstract: The rheological properties of asphalt binder have a great influence on asphalt pavement performance, particularly in terms of rutting, thermal, and fatigue cracking. The current asphalt specifications, such as those used in Arabian Gulf countries, are based on conventional consistency tests focused on the workability of asphalt during the construction of pavements. These methods do not have the capability to predict pavement behavior and performance. This study is an effort to address the importance of adopting newly developed asphalt specification tests by the Strategic Highway Research Program (SHRP), to characterize and evaluate Arabian Gulf produced asphalts in terms of low-temperature cracking. The major finding of this study has been that all Arabian Gulf asphalts can satisfactorily withstand the low-temperature effects prevailing in the area.